[CASE REPORT]

Mohs Surgery in Patients with Immunobullous Diseases

Should Prednisone be Increased Prior to Surgery?

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ABSTRACT

Background: Mohs surgery is one of the most effective treatment options for skin cancers as it offers one of the highest chances for cure. Mohs surgery is a precise technique that removes a layer at a time. Although this may be advantageous, this treatment method is difficult in patients with immunobullous diseases. Currently, the guidelines for Mohs surgery do not discuss the premanagement of immunobullous patients about to undergo Mohs surgery. **Objective:** To advocate for increasing prednisone dose in patients with immunobullous disease prior to undergoing Mohs surgery. **Case Report:** The authors present a case of an excision of a squamous cell carcinoma from a 94-year-old woman with a history of pemphigus vulgaris using Mohs micrographic surgery. **Conclusion:** Current preoperative guidelines for Mohs surgery do not address the issue of altering steroid medications for patients with immunobullous disease prior to the procedure. The authors suggest that patients with a history of immunobullous disease undergoing Mohs micrographic surgery should have an increase in steroid dose prior to surgery. (*J Clin Aesthet Dermatol.* 2014;7(3):45–46.)

A 94 year-old Caucasian woman with no prior history of skin cancer presented for evaluation of a crusting plaque on her mid-back that had been present for six months. The patient's past medical history was significant for pemphigus vulgaris for the last 20 years for which she was on prednisone 2.5mg daily. The patient reported no allergies. She denied smoking and denied alcohol use. Review of systems was unremarkable and physical examination revealed a well-developed, well-nourished woman. Upon complete skin examination, the mid-back presented with a 5x4cm erythematous, waxy, and crusty plaque (Figure 1). The surrounding areas of skin were examined and no other suspicious lesions were noted. The lesion was biopsied and a diagnosis of squamous cell carcinoma (SCC) was established.

On the scheduled day of surgery, the patient did have a new oral ulcer on her left buccal mucosa. The patient did not exhibit any other active lesions. However, during curettage and the incision, her skin became positive for Nikolsky's sign and the epidermis sloughed off immediately (Figure 2). The squamous cell carcinoma was then excised with wider margins using Mohs micrographic surgery (MMS) in one stage.

Furthermore, closing the lesion was very difficult (Figure 3). The defect was repaired utilizing 3-0 Vicryl and 4-0 Nylon, which were placed from opposite edges of the defect spanning the width of the opening to minimize tension at the wound edges. During microscopic examination of the frozen section, it was difficult to assess if the margins were still positive for cancer because the epidermis was not present anymore. A compression dressing consisting of xeroform was used to avoid the use of adhesive tape on surrounding tissue that had become prone to blistering. The authors' goal was to avoid adhesives altogether, since they further traumatize the fragile skin. The patient returned for her two-week follow up for suture

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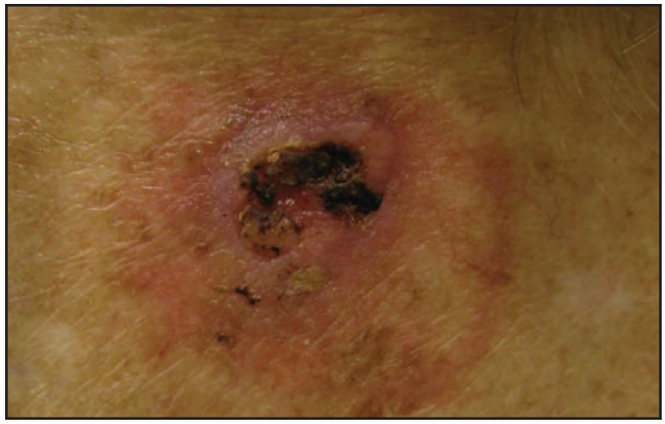

Figure 1. Left upper back—preoperative

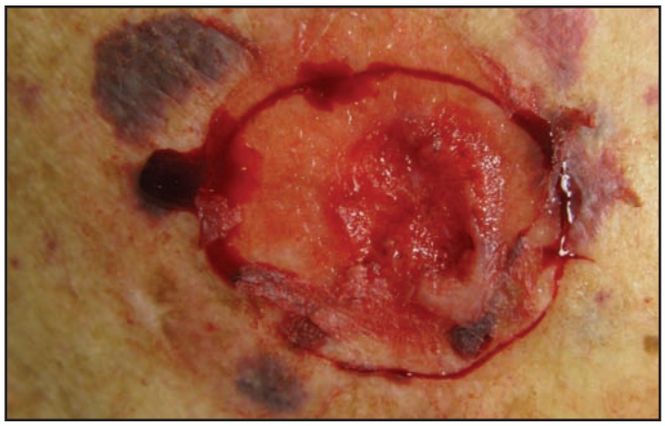

Figure 2. Left upper back—intraoperative

Figure 3. Left upper back—postoperative

removal and was diagnosed with methicillin-resistant *Staphylococcus aureus* (MRSA) infection. This was subsequently cultured and treated with doxycycline. The patient returned one week thereafter for suture removal and healed well with no other complications.

DISCUSSION

The authors present the idea of implementing guidelines for patients with immunobullous disease about to undergo MMS. Currently, there are no guidelines in terms of adjusting prednisone in these patients.

With ill-defined borders commonly occurring with SCC lesions in patients with bullous disease, MMS is more advantageous since it allows for tissue sparing, which is imperative in these patients who have impaired wound healing and are at increased risk of infection.[1] There are many challenges in performing MMS in a patient with an immunobullous disease. These include difficulty in assessing margins during MMS,[1] tissue fragility,[1] poor wound healing secondary to a lack of epidermis,[2] and an increased risk of post-infection secondary to a nonintact epidermal barrier.[3]

Tissue fragility complicates closure in bullous disease.[1] Although defects can be allowed to heal by secondary intention, re-epithelization may not be adequate and cause poor wound healing,[2] which may allow for a recurrence of erosion or ulceration.[3] A patient who has a nonintact epidermal barrier is more prone to increased risk of infection post-surgery. A stronger and intact dermis prior to surgery can be accomplished by increasing steroid dose before surgery.

To the authors' knowledge, there has only been one documented case of margins being difficult to assess in a patient with a bullous disease,[1] although this may already be a common scenario for dermatologists who have conducted MMS in patients with bullous disease. Saxena et al[1] indicate that the surgeon and technician should exercise extreme care to maintain the integrity of the tissue since the epidermis tends to dissociate from the dermis during MMS in patients with epidermolysis bullosa. The authors also recommend a fresh scalpel blade for each layer and a sharp cryostatic knife to minimize epidermal separation on frozen sections. Other suggestions include complete tissue freezing, with the addition of cryogen spray or heat extraction to help decrease shearing forces and allow for easier frozen sections. Further recommendations include paraffin embedding with horizontal orientation ("slow Mohs") if needed. Moreover, during the application of dressings, additional care must be taken to avoid tissue trauma. The authors believe that most of these stringent measures can be prevented by increasing steroid dosage prior to surgery.

In the authors' experience, although MMS provides precise margin control, it is inadequate since epidermis does not present during cross section. Special attention and extra effort to tissue handling, processing, microscopic evaluation, closure technique, and postoperative wound care can all be minimized with an increase in steroids.

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